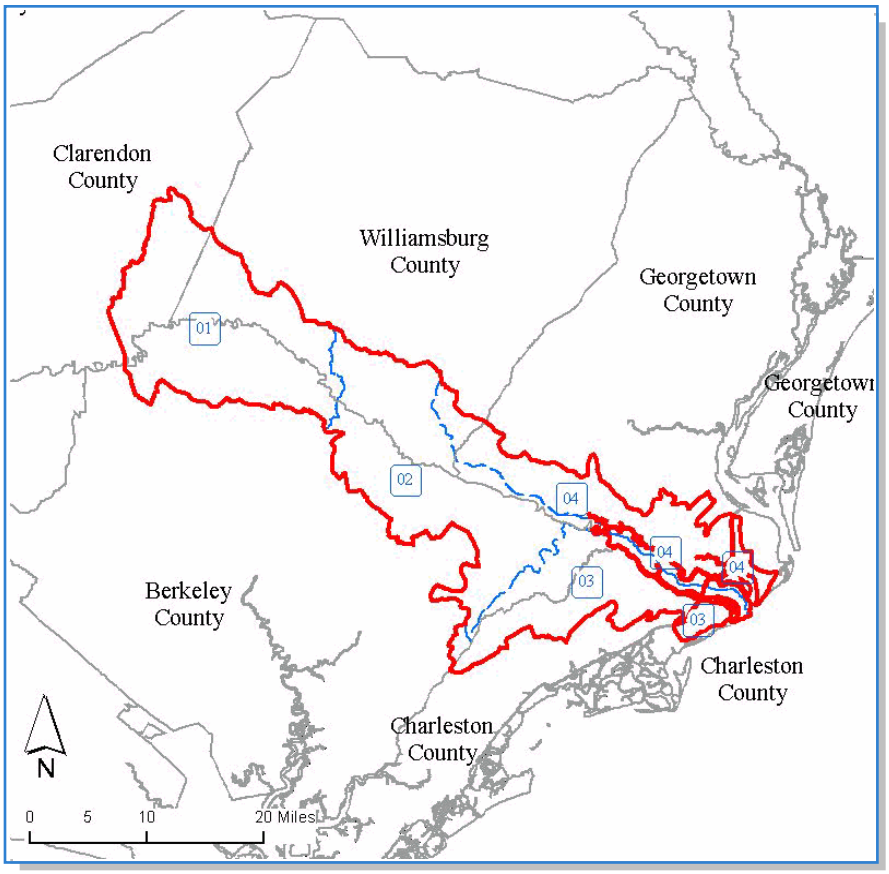
SANTEE Subbasin

August 31, 2007

An Assessment of the Santee Subbasin

Hydrologic Unit Code (8 Digit): 03050112



WATERSHED (10-digit HUC)
(E.g., 01 = 0305011201)

- 01 Rediversion Canal-Santee River
- 02 Echaw Creek-Santee River
- 03 South Santee River
- 04 North Santee River

NRCS
Natural Resources Conservation Service

EXECUTIVE SUMMARY

Watershed Description

The Santee River is formed in central South Carolina by the confluence of the Wateree and Congaree Rivers about 25 miles southeast of Columbia, SC, and flows into Lake Marion. A navigable diversion canal, first built in the 1790s at the southern tip of the lake, connects to Lake Moultrie, a reservoir on the nearby Cooper River. The Santee subbasin covers 690 square miles (442,000 ac) and begins where the Santee exits Lake Marion. About 25 miles downstream, the canal exiting Lake Moultrie joins the Santee River. The Santee then flows southeast, forming the northeast boundary of Francis Marion National Forest. Approximately 10 miles from its mouth, the Santee bifurcates into two channels (North Santee and South Santee) to form Cedar Island. The two channels reach the ocean at Santee Point, approximately 15 miles south of Georgetown.

The watershed passes through the Middle Atlantic Coastal Plain (63), Southeastern Plains (65) and the Southern Coastal Plain (75) ecoregions (Figure 1). A brief description of the Level III ecoregions in this watershed is available in this document's appendix. A more detailed description of the Level III and Level IV Common Resource Areas (Ecological Regions) is available online (See Griffith *et al.* 2002 in References section.).

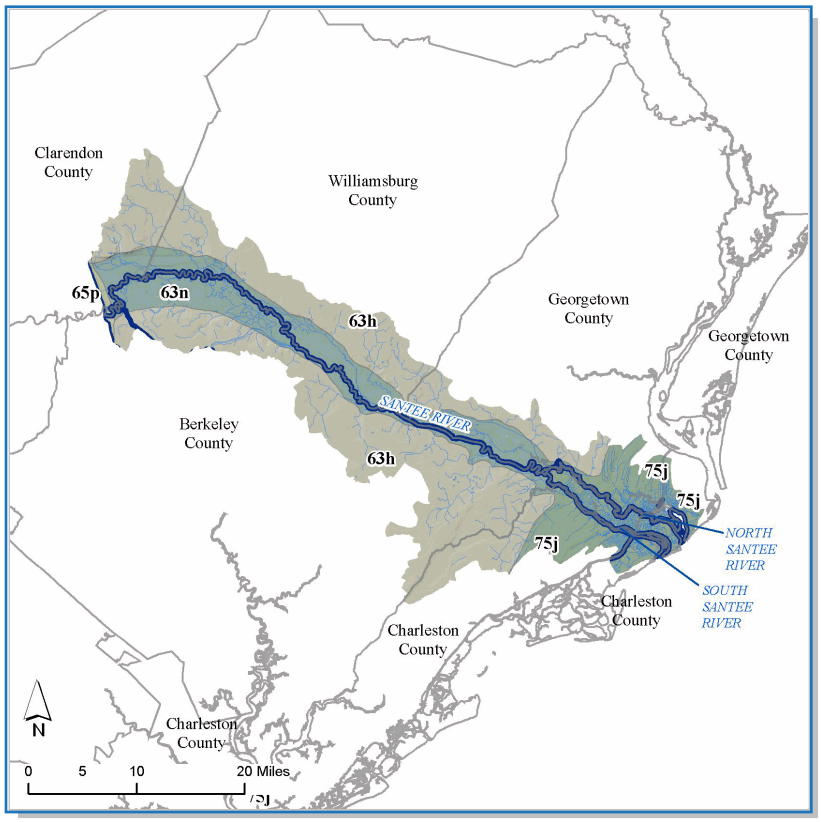


FIGURE 1:
LEVEL IV ECOLOGICAL REGIONS

	63h	Carolina Flatwoods
	63n	Mid-Atlantic Floodplains and Low Terraces
	65l	Atlantic Southern Loam Plains
	65p	Southeastern Floodplains and Low Terraces
	75j	Sea Islands/Coastal Marsh

EXECUTIVE SUMMARY

Land Use/Land Cover

Almost half of this subbasin is covered by the Francis Marion National Forest (Figure 2). The small amount if farmland in the watershed is primarily devoted to rowcrops.

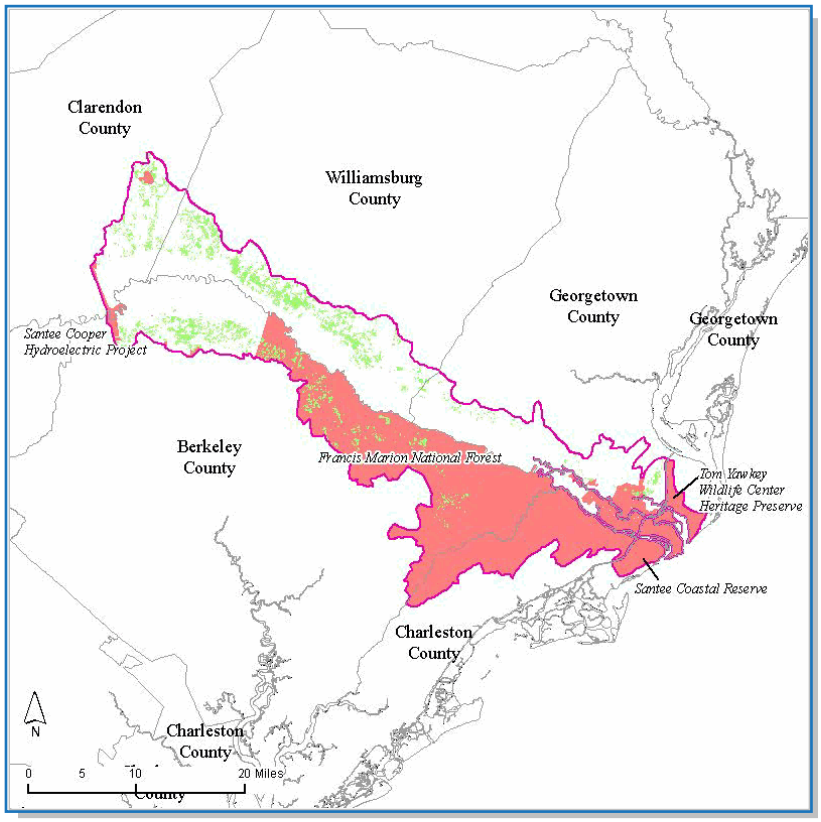


FIGURE 2:
MAJOR LAND USE/LAND COVER CATEGORIES

- FSA Farm Fields
- Urban Areas
- Parks & Land Under Easement
- Other Land

Table 1:
MAJOR LAND USE/LAND COVER CATEGORIES

	Acres	% of Watershed
Watershed (Total)	442,029	-
Urban Area	-	-
Parks/Land Under Easement (not NRCS)	194,762	44%
Farm Service Agency Designated Farm Fields	30,302	7%

Table 2:
AGRICULTURAL LAND USE: FSA ACREAGE AND ESTIMATED FARM FIELD USE FROM THE 2002 AG CENSUS
(NASS Whole County Data Used. Cropland includes: Field Crops, Orchards, and Specialty Crops.)

County	FSA Fields (Acres)	% Pasture (Estimated)	% Cropland (Estimated)	% Hayland (Estimated)
Berkeley	10,880	16%	76%	9%
Charleston	0	18%	71%	11%
Clarendon	3,686	3%	94%	3%
Georgetown	1,913	13%	80%	7%
Williamsburg	13,823	5%	92%	3%

EXECUTIVE SUMMARY

Summary of Resource Concerns

The following is a summary of resource concerns for the watershed. Each resource concern has a more detailed analysis provided in its corresponding section.

Soils
Land capability limitations are dominated by wetness in this subbasin and are typical of an area within the Coastal Plain. Hydric soils or partially hydric soils comprise 88% of the subbasin and are the key resource concerns. Erosion is of moderate concern along upland soils along the Santee River.

Water Quantity
Awaiting SCDNR's 2007 state water assessment.

Water Quality
Fecal coliforms exceeding shellfish harvesting criteria

Plant Condition
The most prominent crops in the subbasin include cotton, corn and wheat for grain, sod harvested and vegetables.

Fish, Wildlife, and Native Plants
According to SC DNR's "Comprehensive Wildlife Conservation Strategy: 2005 - 2010" (see SCDNR 2005 in References section), the following applies to this subbasin: Biologists have identified habitat protection as one of the most important actions to ensure the protection of South Carolina priority species. Loss and fragmentation of habitat have been identified as a major threat to many of the species listed as threatened and endangered in South Carolina.

Domestic Animals
Domestic livestock populations in the subbasin are small.

Economic and Social Factors
This subbasin is one of the few in the state where cropland acreage has remained on average the same between 1997 and 2002.

EXECUTIVE SUMMARY

Progress on Conservation

Table 3:
A SUMMARY OF NRCS APPLIED CONSERVATION TREATMENTS (ACRES)
(See Appendix for NRCS Conservation Practices used for Conservation Treatment Categories.)
(Applied practice data is reported on a fiscal year basis commencing on October 1st)

Conservation Treatments	2004	2005	2006	Total
Buffers and Filter Strips	-	-	0	0
Conservation Tillage	-	-	-	-
Erosion Control	-	2	14	16
Irrigation Water Management	-	-	-	-
Nutrient Management	-	-	60	60
Pest Management	-	-	60	60
Prescribed Grazing	-	-	7	7
Trees and Shrubs	-	912	11	923
Wetlands	-	1,359	519	1,878
Wildlife Habitat	-	1,359	760	2,119

Table 4:
LANDS REMOVED FROM PRODUCTION BY FARM BILL PROGRAMS (WHOLE COUNTY DATA SHOWN)

County	Conservation Reserve Program (ac) 2005	Conservation Reserve Program (ac) 1986 - 2005	Grassland Reserve Program (ac) 2005	Farmland & Ranch Protection Program (ac) 2005	Wetland Reserve Program (ac) 2005
Berkeley	825	14,139	-	-	-
Charleston	547	9,565	-	-	46
Clarendon	10,367	111,412	-	-	6,184
Georgetown	2,557	35,260	-	100	4,166
Williamsburg	20,532	293,154	-	-	2,405

Table 5:
APPROVED TOTAL MAXIMUM DAILY LOAD (TMDL)
(See SCDHEC 2007 (a) in Reference Section.) - SCDHEC Contact: Matt Carswell - (803) 898-3609

TMDL Document	Numberof Stations	Parameter of Concern	Status	WQMS ID Standard Attained
-	-	-	-	-

Table 6:
OTHER PLANS, ASSESSMENTS, AND PROJECTS IN THE WATERSHED

Organization	Description	Contact	Telephone
USGS	Santee National Water Quality Assessment (NAWQA) project	Celeste A. Journey	803-750-6141
SCDHEC	Watershed Water Quality Assessment: Santee River Basin (2005)	Andy Miller	803-898-4031

EXECUTIVE SUMMARY

Other Watershed Considerations

In 1939, the Santee River was dammed, forming lakes Marion and Moultrie and diverting the river's flow into the Cooper River. The intent of the project was to bring cheap electricity to rural South Carolina, one unintended consequence was the change in character of both the Cooper and Santee Rivers below the project. The Santee River, deprived of most its river flow, became much more saline - resulting in a changed ecosystem below the project. The Cooper River now receives much more freshwater and sediment loads than used to flow into the Santee, resulting in increases in dredging costs in Charleston Harbor.

RESOURCE CONCERNS

Soils

A majority (78%) of land in this Coastal Plain subbasin has limitations due to wetness (Table 7). Much of the wetness is associated with hydric soils in riparian areas (Figure 5). Droughtiness is a major concern is about 12% of the area (Table 7) and occurs mostly in the sandy soils on stream terraces in the lower part of the subbasin (Figure 1) and along a sandy, narrow scarp on the Berkeley/Charleston County border. Low soil organic matter in these sandy soils is a soil health concern. Erosion is a resource concern only on sloping upland soils that border the Santee River (Figures 1 and 4). Only 9% of the land is classified as potentially highly erodible (Table 9). A little of over half of the land in the Santee subbasin is either prime farmland (22%) or statewide important farmland (30%) and occurs on uplands throughout the subbasin (Figure 3, Table 8).

Table 7:
LAND CAPABILITY CLASSES (See NRCS 2007 [a] and [b] in References section.)

Percentages are based on the whole watershed (442,029 ac).

Land Capability Class 1	Acres	Percent
1 - Slight limitations	9,835	2%

	% Land by Subclass Limitation					
	Erosion (e)		Wetness(w)		Droughtiness (s)	
Land Capability Classes 2-8	Acres	Percent	Acres	Percent	Acres	Percent
2 - Moderate limitations	24,096	5%	96,395	22%	16,340	4%
3 - Severe limitations	-	-	74,391	17%	32,807	7%
4 - Very severe limitations	1,434	0%	23,780	5%	3,132	1%
5 - No erosion hazard, but other limitations	-	-	3,238	1%	-	-
6 - Severe limitations; unsuitable for cultivation; limited to pasture, range, forest	-	-	100,493	23%	949	0%
7 - Very severe limitations; unsuitable for cultivation; limited to grazing; forest, wildlife habitat	-	-	13,805	3%	201	0%
8 - Miscellaneous areas; limited to recreation, wildlife habitat, water supply	-	-	28,999	7%	29	0%

RESOURCE CONCERNS

Prime Farmland

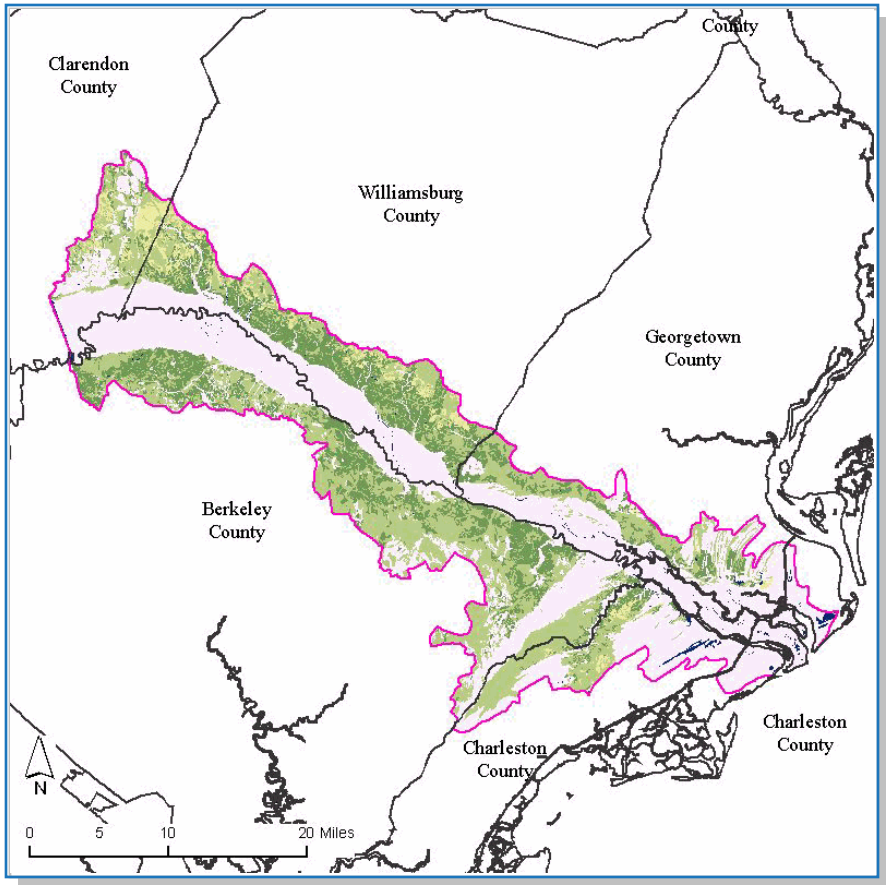


FIGURE 3:
PRIME FARMLAND
(See NRCS 2007 [a] and [b] in References section.)

Table 8:
PRIME FARMLAND

Prime Farmland Categories	Acres	Percent of Land
All areas are prime farmland	81,048	18%
Farmland of statewide importance	132,102	30%
Not prime farmland	212,777	48%
Prime farmland if drained	15,983	4%
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	0	0%
Prime farmland if irrigated	0	0%
Prime farmland if irrigated and drained	0	0%
Prime farmland if protected from flooding or not frequently flooded during the growing season	0	0%

RESOURCE CONCERNS

Highly Erodible Land

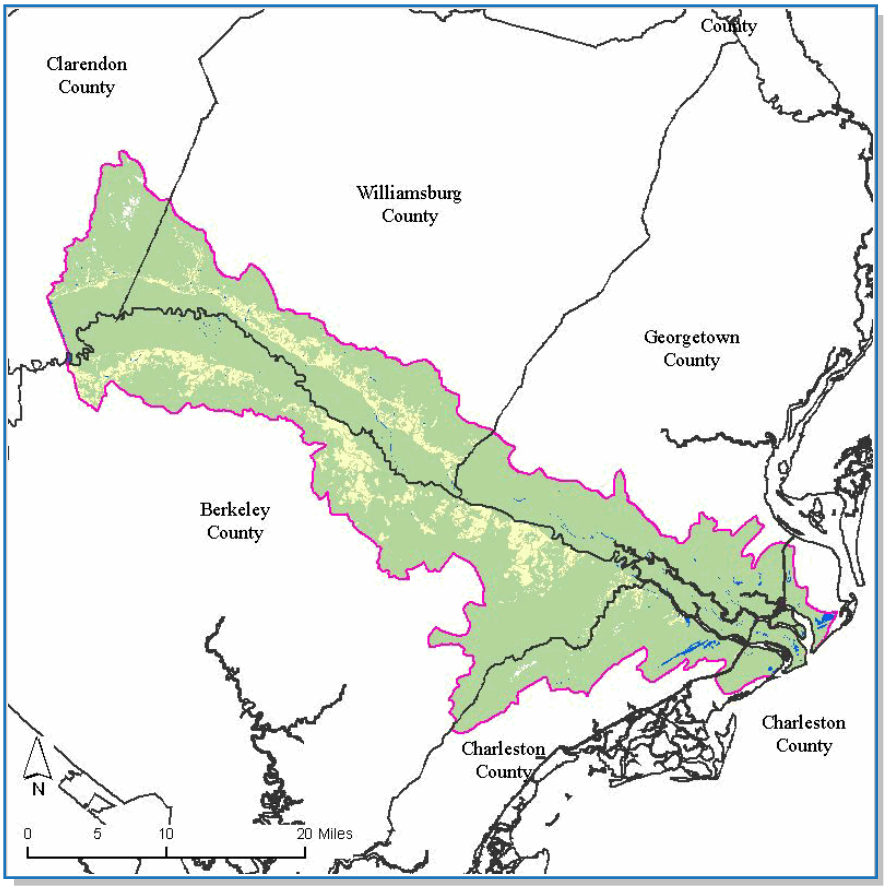


FIGURE 4:
HIGHLY ERODIBLE LAND
(See NRCS 2007 [a] and [b] in References section.)

Table 9:
HIGHLY ERODIBLE LAND

Highly Erodible Land Categories	Acres	Percent of Watershed
Highly erodible land	0	0%
Not highly erodible land	396,353	90%
Potentially highly erodible land	38,356	9%

RESOURCE CONCERNS

Hydric Soils

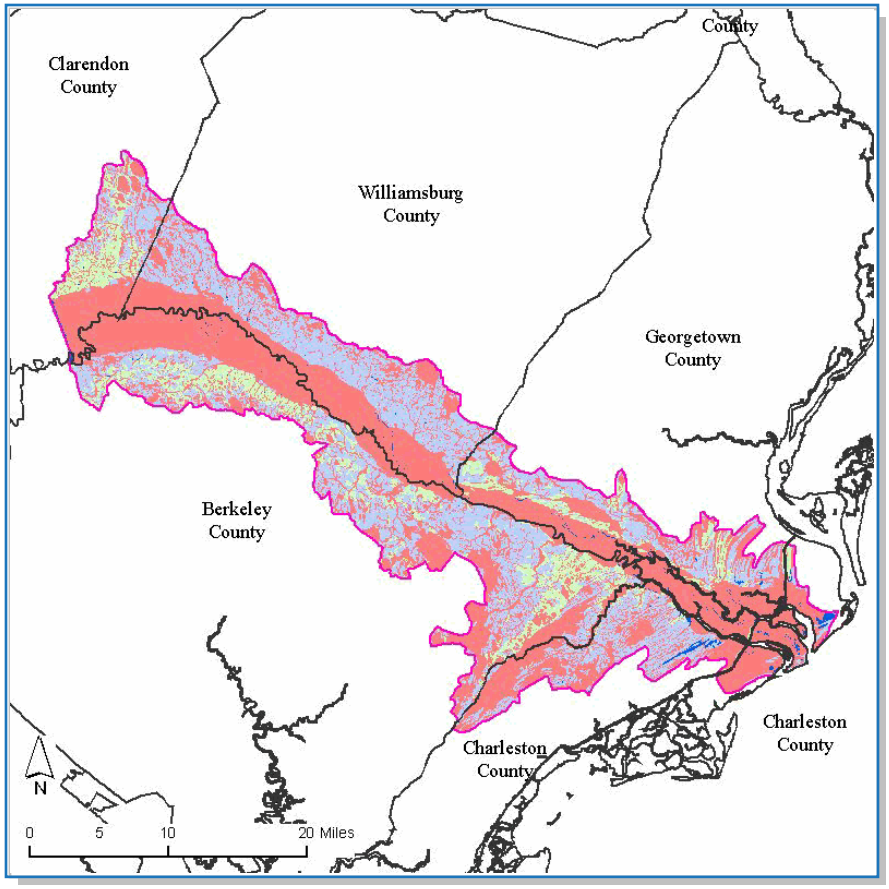


FIGURE 5:
HYDRIC SOILS
(See NRCS 2007 [a] and [b] in References section.)

Table 10:
HYDRIC SOILS

Hydric Soils Categories	Acres	Percent of Watershed
All Hydric	237,741	54%
Not Hydric	53,997	12%
Partially Hydric	150,171	34%

RESOURCE CONCERNS

Water Quantity

Narrative awaiting SCDNR's new state water assessment.

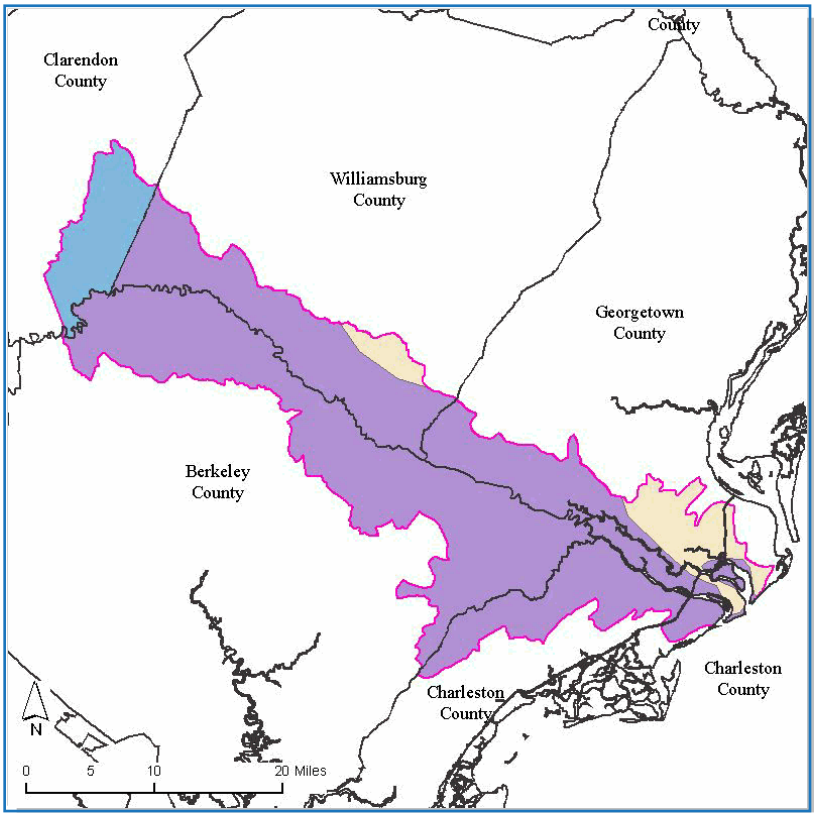


FIGURE 6:
WATERSHED RELATIVE TO CAPACITY USE AREAS, NOTICE OF INTENT AREAS, AND CONES OF DEPRESSION

Table 11:
CAPACITY USE, NOTICE OF INTENT, AND CONES OF DEPRESSION AREA IN WATERSHED
(See SCDHEC 2007 [c] and SCDNR 2004 in Refrerences Section.)

Area	Percent of Watershed
% Watershed in Cone of Depression and Capacity Use (CU) Area	9%
% Watershed in SCDHEC Capacity Use (CU) Area	83%
% Watershed in SCDHEC Notice of Intent (NOI) Area	9%

RESOURCE CONCERNS

Water Quantity Cont.

Table 12:
INDICATORS OF IRRIGATION WATER USAGE (WHOLE COUNTY DATA ARE USED)
(See NASS 2002 and SCDNR 2004 in References Section)

County	Total Irrigated Water Used MGD	Total NASS Cropland (ac)	Cropland Under Irrigation (ac)	Percent Cropland Under Irrigation	Water Use Gal/Ac/Day for Irrigated Land
Berkeley	1.83	17,389	602	3.5	3,040
Charleston	8.04	12,397	1,666	13.4	4,826
Clarendon	5.72	91,881	1,704	1.9	3,357
Georgetown	4.79	15,152	1,325	8.7	3,615
Williamsburg	2.31	100,908	758	0.8	3,047

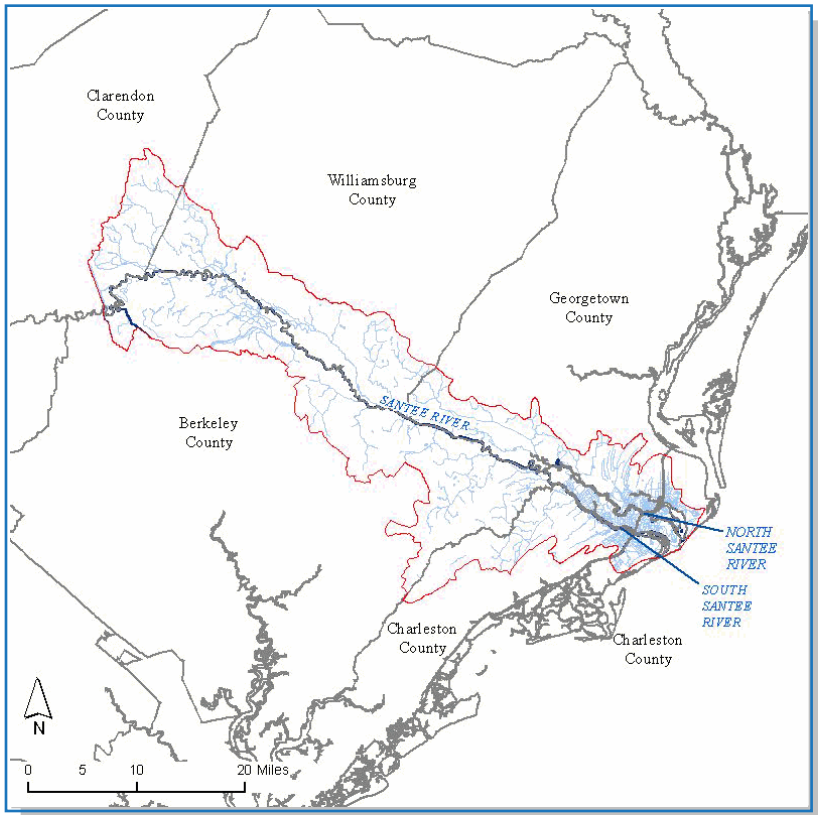


FIGURE 7:
NRCS ASSISTED FLOOD CONTROL STRUCTURES IN WATERSHED

- Flood Control Structure
- Main River
- Hydrography

Table 13:
NRCS IMPLEMENTED FLOOD CONTROL STRUCTURES

Number of Structures (in Watershed)	Maximum Storage (AcFt)	Number of Structures by Hazard Class			
		High	Low	Significant	Unclassified
0	-	0	0	0	0

RESOURCE CONCERNS

Water Quality

The number of surface water quality impairments is shown in Table 15 resulting in a "303(d)" listing of that Water Quality Monitoring Site (WQMS). Table 5 indicates what progress has been made to address surface water quality through the Total Maximum Daily Load (TMDL) process. Once a TMDL plan is approved, the WQMS is removed from the 303(d) list even though the standard may not have been attained. Note that standards for total nitrogen, total phosphorus, and chlorophyll-a only exist for lakes; therefore, no stream in the state can be listed for any of these three parameters.

The most frequent impairments are fecal coliforms exceeding shellfish harvesting criteria (Table 15).

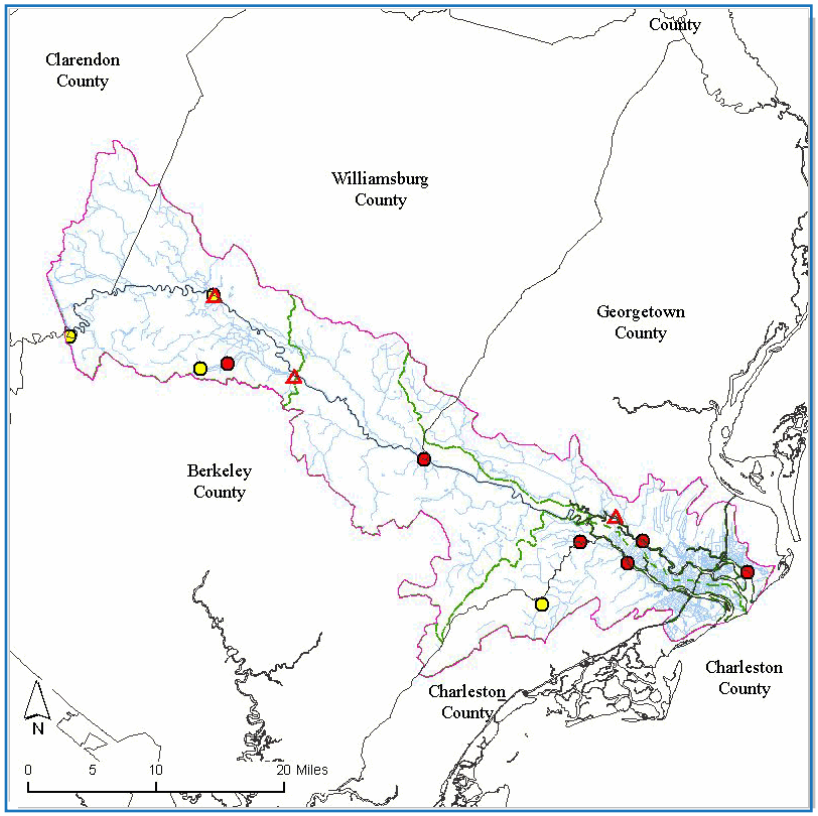


Table 14:
WATER QUALITY MONITORING SITES

Permanent Water Quality Monitoring Sites (WQMS)	10
Random Water Quality Monitoring Sites (WQMS)	18

FIGURE 8:
PERMANENT WATER QUALITY MONITORING SITES

- WQMS (No Impairment)
- WQMS (303d Listed)
- WQMS (Approved TMDL)
- Waste Water Treatment Plant
- Hydrography
- Hydrologic Unit Code 10 Boundary

Table 15:
NUMBER OF MONITORING SITES SHOWING SURFACE WATER QUALITY IMPAIRMENTS
(See SCDHEC 2006 in References for the state 303(d) list.)

Recreational Use Standard

Parameter	Impairments
Fecal Coliform	3

Fish Tissue Standard

Parameter	Impairments
Mercury	10
PCB's	0

Shellfish Harvest Standard

Parameter	Impairments
Fecal Coliform	11

Aquatic Life Use Standard

Parameter	Impairments	Parameter	Impairments	Parameter	Impairments
Biological	2	Dissolved Oxygen	0	Total Phosphorus	0
Chlorophyll A	0	Ammonia Nitrogen	0	pH	0
Chromium	0	Nickel	0	Turbidity	1
Copper	1	Total Nitrogen	0	Zinc	1

RESOURCE CONCERNS

Plant Condition

Plants of Economic Importance

Plants of economic importance are shown in Table 16. The crops shown in this table are from NASS data where the top five crops, by acres, in each county are displayed. The timber statistics (see Clemson Extension Forest Services 2003 in References) indicate the relative importance of the timber industry within the state and the importance of the timber industry compared to agriculture within the county.

The most prominent crops in the subbasin include cotton, corn and wheat for grain, sod harvested and vegetables.

Native Plant Species

According to SC DNR's "Comprehensive Wildlife Conservation Strategy: 2005 - 2010" (see SCDNR 2005 in References section), the following applies to this subbasin: Coastal Plain pine and hardwood forests typically extend into the Coastal Zone, but vary due to coastal influences or land management practices that are characteristic of the Coast. The types of forest include Pine Woodland, Bottomland Hardwoods, Upland Oak-hickory forest, Southern Mixed Hardwood Forest, Marl Forest and Calcareous Cliff, and Cypress-tupelo swamp types. Cypress-tupelo swamps within the Coastal Zone may be influenced more by tidal activity than by river flows, but the water is typically fresh.

In the forests of the immediate Coastal Zone, barrier islands, and inland dune systems, characteristic trees include live oak, laurel oak, cabbage palmetto, southern magnolia and southern red cedar. These evergreen-dominated forests are salt-tolerant and often support shrub thickets with yaupon holly, red bay and wax myrtle.

Table 16:
WHOLE COUNTY DATA OF PLANTS OF ECONOMIC IMPORTANCE IN SUBBASIN
(See: USDA NASS 2002 & Clemson University Forest Extension Services 2003 in References section)

Plant	Counties
All Cotton	Georgetown, Clarendon, Williamsburg
All Vegetables harvested	Clarendon, Charleston
All Wheat for grain	Clarendon, Williamsburg
Corn for grain	Williamsburg, Clarendon, Berkeley, Georgetown, Charleston
Forage - land used for all hay and haylage, grass silage, and greenchop	Berkeley, Georgetown, Charleston, Williamsburg
Sod harvested	Charleston, Georgetown
Soybeans	Williamsburg, Clarendon, Berkeley, Georgetown
Tomatoes	Charleston
Timber, Top 10 Rank in SC	Georgetown
Timber Revenues Exceed Ag. Revenues	Georgetown, Berkeley

Table 17:
FEDERALLY LISTED THREATENED AND ENDANGERED PLANT SPECIES IN WATERSHED
(See USFW 2006 in References section.)

Common Name	Latin Name	Status
Canby's dropwort	*Oxypolis canbyi*	Endangered
Chaff-seed	*Schwalbea americana*	Endangered
Pondberry	*Lindera melissifolia*	Endangered
Sea-beach amaranth	*Amaranthus pumilus*	Threatened

RESOURCE CONCERNS

Fish and Wildlife

For additional information, the SC Department of Natural Resources has completed a "Comprehensive Wildlife Conservation Strategy: 2005 - 2010" (see SCDNR 2005 in References section).

In 2005, mercury advisories were issued for 57 water bodies in South Carolina. Higher concentrations of mercury in fish tissue tend to occur in the Coastal Plain of South Carolina with relatively lower concentrations (and therefore fewer advisories) in the Piedmont. For more details on fish advisories, please refer to the SCDHEC fish advisory website at: **http://www.scdhec.gov/environment/water/fish/**

Table 18:
FEDERALLY LISTED THREATENED AND ENDANGERED WILDLIFE SPECIES IN WATERSHED
(See USFW 2006 in References section.)

Common Name	Latin Name	Status
Wood stork	*Mycteria americana*	Endangered
West Indian manatee	*Trichechus manatus*	Endangered
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Piping plover	*Charadrius melodus*	Threatened, Critical Habitat
Loggerhead sea turtle	*Caretta caretta*	Threatened
Kirtland's Warbler	*Dendroica kirtlandii*	Endangered
Kemp's ridley sea turtle	*Lepidochelys kempii**	Endangered
Green sea turtle	*Chelonia mydas**	Threatened
Flatwoods salamander	*Ambystoma cingulatum*	Threatened
Bachman's warbler	*Vermivora bachmanii*	Endangered
Leatherback sea turtle	*Dermochelys coriacea**	Endangered

Table 19:
FEDERALLY LISTED THREATENED AND ENDANGERED AQUATIC SPECIES IN WATERSHED
(See USFW 2006 in References section.)

Common Name	Latin Name	Status
Shortnose sturgeon	*Acipenser brevirostrum*	Endangered

RESOURCE CONCERNS

Domestic Animals

Domestic livestock populations in the subbasin are small (Tables 20, 21).

Table 20:
WHOLE COUNTY GRAZING ANIMAL POPULATION DATA FROM 2002 AG. CENSUS
(See NASS 2002 in References section. "D" in table = "Cannot be disclosed".)

County	Cows/Calves	Grazing/Forage (ac)	County Rank in State
Berkeley	2,137	2,754	42
Charleston	1,750	2,195	(D)
Clarendon	4,833	3,038	27
Georgetown	1,373	1,959	44
Williamsburg	4,868	4,710	(D)

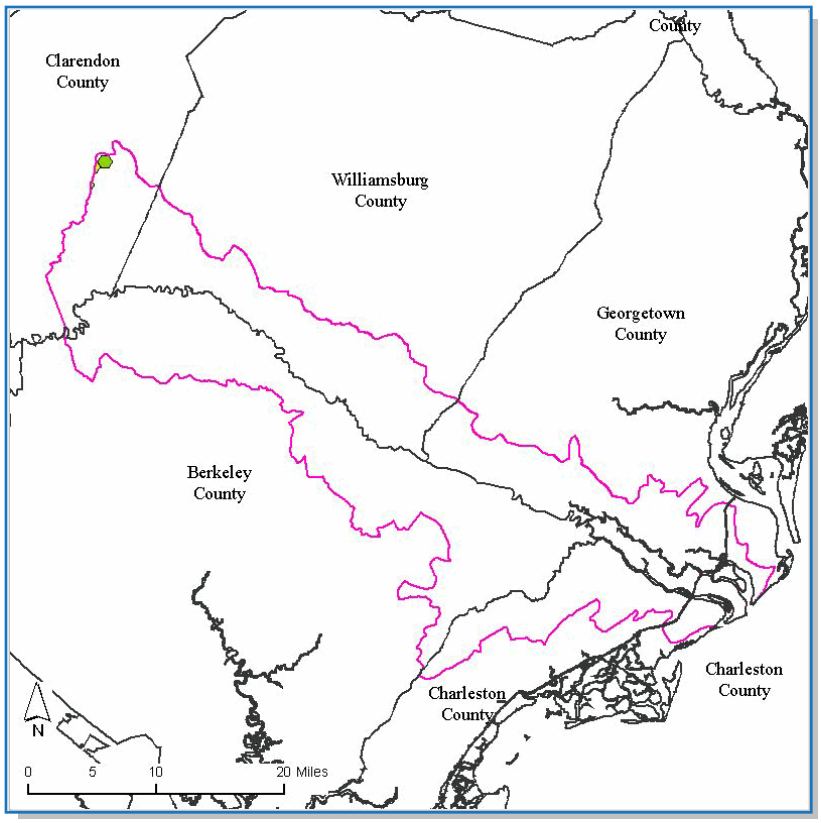


Table 21:
CONFINED ANIMAL POPULATION [As given by SCDHEC] (Au = Animal Unit = 1,000 lbs)

Beef Live Weight (Au)	-
Dariy Live Weight (Au)	-
Horse Live Weight (Au)	-
Poultry Live Weight (Au)	184
Swine Live Weight (Au)	-
Turkey Live Weight (Au)	-

FIGURE 9:
TYPE AND SIZE OF CONFINED ANIMAL OPERATION

Permit Design Count (Live Weight AU)
- 0 - 163
- 164-372
- 373 - 680
- 681 - 1360
- 1361 - 7076

- Beef
- Dairy
- Other
- Poultry
- Swine
- Turkey

ECONOMIC & SOCIAL FACTORS

The number of full-time farmers is close to the state average of 47% and farm sizes are *larger* than the state average of 197 ac (Table 22), suggesting average to above average levels of participation in conservation programs. Farm sizes *decreased* by an estimated 12% between 1997 and 2002 similar to the state average of 13% for the same period. The subbasin is one of the few in the state where cropland acreage has remained on average the same between 1997 and 2002; the SC average cropland loss is estimated at 8%.

The relative importance of crop and livestock commodity groups in the watershed is shown in Tables 24 and 25; a *qualitative* indication of the relative importance of timber is provided on Table 16.

For more economic and farm information from the 2002 Agricultural Census, more detailed reports for all South Carolina counties can be found at:
http://www.nass.usda.gov/census/census02/profiles/sc/index.htm

Table 22:
2002 FARM CENSUS DATA (WHOLE COUNTY DATA SHOWN) (SC average farm size = 197 ac)

County	Total Number of Farms	% Full Time Farmers	% Farms > 180 (ac)	Average Farm Size (ac)
Berkeley	398	47%	18%	143
Charleston	417	42%	14%	114
Clarendon	390	47%	35%	379
Georgetown	226	46%	28%	242
Williamsburg	681	44%	39%	302
Weighted Avg*	**517**	**45%**	**31%**	**250**

Table 23:
2002 FARM CENSUS ECONOMIC DATA (WHOLE COUNTY DATA SHOWN) (Results in $1,000)

County	Market Value of Ag Products Sold	Market Value of Crops Sold	Market Value of Livestock, Poultry, and Their Products	Farms with sales < $10,000
Berkeley	25,966	24,886	1,080	339
Charleston	18,068	15,983	2,085	321
Clarendon	61,620	28,121	33,499	266
Georgetown	23,942	21,967	1,975	173
Williamsburg	27,644	22,367	5,277	506
Weighted Avg*	**30,895**	**23,940**	**6,955**	**397**

Table 24:
VALUE OF CROP COMMODITY GROUPS - COUNTY RANK IN STATE
(See NASS 2002 in References section. "D" in table = "Cannot be disclosed".)

County	Value of All Crops	Grains & Oilseeds	Tobacco	All Cotton	Vegetables & Melons	Fruits, Nuts, & Berries	Nursery, Etc.	Christmas Trees & Woody Crops	Hay & other Crops
Berkeley	8	(D)	(D)	(D)	37	29	(D)	-	41
Charleston	15	(D)	-	-	4	9	9	(D)	(D)
Clarendon	7	2	7	16	2	(D)	12	(D)	(D)
Georgetown	11	25	9	21	41	(D)	4	(D)	43
Williamsburg	10	10	5	4	12	(D)	17	(D)	31

* Weighted averages are estimated based on agricultural land use area.

ECONOMIC & SOCIAL FACTORS

Table 25:
VALUE OF LIVESTOCK AND POULTRY COMMODITY GROUPS - RANK IN STATE
(See NASS 2002 in References section. "D" in table = "Cannot be disclosed".)

County	Value of Livestock, poultry	Poultry, Eggs	Cattle & Calves	Milk & Dairy	Hogs & Pigs	Sheep & Goats	Horses, etc.
Berkeley	43	(D)	42	23	(D)	36	23
Charleston	37	39	(D)	-	37	26	(D)
Clarendon	13	11	27	-	5	(D)	12
Georgetown	39	41	44	(D)	9	(D)	37
Williamsburg	28	(D)	(D)	-	7	(D)	15

REFERENCES

Clemson University Extension Forest Service. 2001. *Cash Receipts from Timber Harvests - 2001 Ag and Timber Comparison.*. Compiled by A. Harper. Available at:
http://www.clemson.edu/extfor/forest_data/

Griffith, G.E., Omernik, J.M., Comstock, J.A., Schafale, M.P., McNab, W.H., Lenat, D.R., MacPherson, T.F., Glover, J.B., and Shelburne, V.B., 2002, Ecoregions of North Carolina and South Carolina, (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,500,000). Available at:
http://www.epa.gov/wed/pages/ecoregions/ncsc_eco.htm

National Resource Inventory (NRI) 1997. Estimates of water erosion from Cropland by 8-digit HUC. Available at:
http://www.nrcs.usda.gov/technical/land/erosion.html

NatureServe 2006. Distribution of native fish species by watershed. NatureServe. Available at:
http://www.natureserve.org/getData/

South Carolina Department of Health and Environmental Control (SCDHEC) 2006. Listing of Impaired Waters (or 303(d) list). Available at:
http://www.scdhec.gov/environment/water/docs/06_303d.pdf

South Carolina Department of Health and Environmental Control (SCDHEC) 2007 (a). Total Maximum Daily Load Documents. Available at:
http://www.scdhec.gov/environment/water/tmdl/tmdlsc.htm

South Carolina Department of Health and Environmental Control (SCDHEC) 2007 (b). Watershed Water Quality Assessments. Available at:
http://www.scdhec.gov/environment/water/shed/

South Carolina Department of Health and Environmental Control (SCDHEC) 2007 (c). Water use and reporting Program (Capacity Use) SCDHEC. Available at:
http://www.scdhec.net/environment/water/capuse.htm

South Carolina Department of Natural Resources (SCDNR) 2005. Comprehensive Wildlife Conservation Strategy (2005 - 2010). Columbia, SC. SCDNR. Available at:
http://www.dnr.sc.gov/cwcs

South Carolina Department of Natural Resources (SCDNR) 2002. SC GAP Analysis and Dynamic Mapping. Columbia, SC. SCDNR. Available at:
http://www.dnr.sc.gov/GIS/gap/mapping.html

South Carolina Department of Natural Resources (SCDNR) 2004. South Carolina Water Plan, Second Edition (January 2004). Columbia, SC. SCDNR. Available at:
http://www.dnr.sc.gov/water/hydro/wtrplanerrata.html

USDA Farm Services Agency in South Carolina (FSA-SC) 2006. CRP Data. Columbia SC. USDA/FSA

USDA Natural Resources Conservation Services (NRCS) 2007 (a). National Soil Information System (NASIS). USDA/NRCS. County Soils Data (tabular) information available at:
http://soildatamart.nrcs.usda.gov/

REFERENCES

USDA Natural Resources Conservation Services (NRCS) 2007 (b). Soil Survey Geographic (Ssurgo) Database. USDA/NRCS. County Soils Data (spatial). Available at:
http://soildatamart.nrcs.usda.gov/

USDA Natural Resources Conservation Services in South Carolina (NRCS-SC) 2006. GRP, FRPP, and WHP. Columbia, SC. USDA/NRCS.

USDA National Agricultural Statistical Service (NASS) 2002. 2002 Census of Agriculture. Washington, DC: USDA/NASS.

US Fish and Wildlife Service (USFWS) 2007. USFWS Threatened and Endangered Species System (TESS). Available at:
http://ecos.fws.gov/tess_public/StartTESS.do

US Fish and Wildlife Service (USFWS) 2006. South Carolina Distribution Records of Endangered, Threatened, Candidate and Species of Concern, October 2006. Available at:
http://www.fws.gov/charleston/docs/etcountylist_10_06.htm

APPENDIX

Level III Common Resource Area (Ecological Region) Descriptions

Middle Atlantic Coastal Plain (63)

The Middle Atlantic Coastal consists of low elevation, flat plains, with many swamps, marshes, and estuaries. Forest cover in the region, once dominated by longleaf pine in the Carolinas, is now mostly loblolly and some shortleaf pine, with patches of oak, gum, and cypress near major streams. Pine plantations for pulpwood and lumber are typical, with some areas of cropland. In South Carolina, the Middle Atlantic Coastal Plain is divided into three level IV ecoregions Carolinian Barrier Islands and Coastal Marshes (63g), Carolina Flatwoods (63h), Mid-Atlantic Floodplains and Low Terraces (63n).

Southeastern Plains (65)

The Southeastern Plains are irregular with broad interstream areas have a mosaic of cropland, pasture, woodland, and forest. In the past centuries, human activities (logging, agriculture and fire suppression) removed almost all of the longleaf pine forests. Elevations and relief are greater than in the Southern Coastal Plain (75), but generally less than in much of the Piedmont (45). The ecoregion has been divided into three level IV ecoregions within South Carolina: Sand Hills (65c), Atlantic Southern Loam Plains (65l), and Southeastern Floodplains and Low Terraces (65p). Note: The Atlantic Southern Loam Plains (65l) is a major agricultural zone, with deep, well-drained soils, and is characterized by high percentages of cropland.

Southern Coastal Plain (75)

The Southern Coastal Plain extends from South Carolina and Georgia through much of central Florida, and further along the Gulf coast. It is a heterogeneous region also containing barrier islands, coastal lagoons, marshes, and swampy lowlands along the Gulf and Atlantic coasts. The South Carolina portion of the Southern Coastal Plain contains two level IV ecoregions: Floodplains and Terraces (75i), and Sea Islands/Coastal Marsh (75j).

NRCS Conservation Practices used for Conservation Treatment Categories in Table 3

Report Category	Practice Codes
Buffer and Filter Strips	332, 391, 393, 412
Conservation Tillage	324, 329, 329A, 329B, 344, 484
Erosion Control	327, 328, 330, 340, 342, 561, 585, 586
Irrigation Water Management	441, 449
Nutrient Management	590
Pest Management	595
Prescribed Grazing	528, 528A
Trees and Shrubs	490, 612, 655, 656, 66
Wetlands	657, 658, 659
Wildlife Habitat	644, 645

APPENDIX

Hydrologic Unit Numbering System

In 2005, the NRCS in cooperation with the U.S. Geological Survey, the South Carolina Department of Health and Environmental Control, and the U.S. Forest Service updated the South Carolina part of the USGS standard hydrologic unit map series. The report, "Development of a 10- and 12- Digit Hydrologic Unit Code Numbering System for South Carolina, 2005", describes and defines those efforts. The following is from the Abstract contained in that report: "A hydrologic unit map showing the subbasins, watersheds, and subwatersheds of South Carolina was developed to represent 8-, 10-, and 12-digit hydrologic unit codes, respectively. The 10- and 12-digit hydrologic unit codes replace the 11- and 14-digit hydrologic unit codes developed in a previous investigation. Additionally, substantial changes were made to the 8-digit subbasins in the South Carolina Coastal Plain. These modifications include the creation of four new subbasins and the renumbering of existing subbasins." The report may be obtained at **http://www.sc.nrcs.usda.gov/technical/HUC_report.pdf**. See Table 2 in the report for a cross-reference of old to new 8-digit HUC.

This subbasin profile uses the new HUC 8 numbering system with its modified and newly created subbasins. The NRCS reports implemented practices by 8-digit Hydrologic Unit Code. All NRCS reported Conservation Practices were reported using the older numbering system. 2005 and 2006 data were converted to the new HUC 8 numbering system through the Latitude and Longitude data reported with the applied practice. The use of these differing numbering systems has resulted in some NRCS implemented practices being credited in this report to an 8-digit HUC as reported by the NRCS but not correctly credited in the new numbering system. Likewise, the newly created 8-digit HUC will not be credited with the 2004 applied practices.